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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/619,055

07/14/2003

Yann Echelard

GTC-208

6885

31904

7590

10/17/2006

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EXAMINER

NOBLE, MARCIA STEPHENS

ART UNIT

PAPER NUMBER

1632

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/619,055

Applicant(s)

ECHELARD ET AL.

Examiner

Marcia S. Noble

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 8/1/2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 14, 17 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 14, 17, 22-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## DETAILED ACTION

### *Status of Claims*

1. Claims 1, 3-30, 14, 17 and 23 are amended and claim 11 has been canceled by amendment, filed 8/1/2006. Claims 12, 13, 15, 16, 18-21, and 25 were previously canceled. Claims 1-10, 14, 17, and 22-24 are under consideration.

### *Specification*

2. The listing of references in the specification is not a proper information disclosure statement. Applicant traverses this objection on the grounds that The listing of references in the specification is not intended by Applicant to be a proper information disclosure statement and Applicant has already submitted references to be considered in an IDS. These arguments are found persuasive. Therefore, the objection to the specification is withdrawn.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

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F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-4, 6-10, 14, 17, and 22-24 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21, 23-25 of copending Application No. 11/081945. Although the conflicting claims are not identical, they are not patentably distinct from each other because they encompass the same scope.

In the Applicant's Response to the Non-Final Rejection, Applicant proposes that the issue of this rejection be deferred and that they would like to maintain the right to subsequently address this rejection, given the copending application's status is in an unallowed state and that the rejection is provisional. Applicant's request is acknowledged. However, the rejection of record is maintained.

4. Claim 1 is provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of copending Application No. 11/408,660. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented. This application was filed after the Non-Final Action for the instant application was filed.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-10, 14, 17, and 22-24 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant traverses this rejection on the following grounds on several grounds.

First, the claims were rejected on the grounds that cell lines can not be used to make transgenic animal nor do nuclear transfer. Art by Zakhartchenko et al was cited in support of this enable (p. 6, par starting at line 7). Applicant traversed this point of enablement on the grounds that this is incorrect because transgenic animal can be made with transfected cultured cells and that Zakhartchenko et al is 4 year older than the filing date of the instant application. This argument was not found persuasive because Applicant seems to have misinterpreted the point of enablement. It is acknowledged and agreed upon that transgenic and nuclear transfers can and are made from transfected cells. However, the point of enablement was not to transfected or cultured cell but to cell lines. Cell lines are homogenous cells that have been selected and propagated over many passages and stored. This is different from

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primary cell lines that are isolated cell that are cultured and can only be propagated over a few passages and may not be a homogenous population or cells that have just been isolated from an animal, which are both encompassed by the amendment of the claims to include "cell" or cell line. At the time of filing and presently, transgenic animals nor nuclear transfer can be done with cell lines as was demonstrated by Zakhartchenko et al and still applies presently for reasons previously disclosed in the Non-Final Action.

Furthermore, the breadth of the claims now also encompass primary cell or cell just isolated from an animal. Not all primary cells can be used in nuclear transfer and transgenesis. Presently, ES cells, blastomeres, fibroblasts, cumulus cells, and mammary epithelial cells have been successfully used to do nuclear transfer. However, other somatic cells have not been used or have been problematic for use in nuclear transfer. Therefore, an artisan would not know how to use or make the instant invention with any cells as the amended claims encompass because not all cells are capable of being used in nuclear transfer and transgenesis.

Second, the claims were rejected on the grounds that the phenotype of a transgenic animal is unpredictable. Applicant traverses this point of enablement on the ground that a phenotype is not being claimed and therefore is not applicable. Upon further consideration, Applicant's arguments are found persuasive for this point of enablement and therefore the grounds that the phenotype is unpredictable and therefore not enabled is withdrawn.

Third, the claims were rejected on the ground that the art of nuclear transfer is unpredictable in different species and therefore the claims are not enabled for all

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animals as claimed. Applicant traverses this point of rejection on the grounds that specification is enabling for nuclear transfer and that a person of ordinary skill would be able to perform it on any animal. These arguments are not found persuasive because as previously stated, "Westhusin et al. (Theriogenology, 55:35-49, 2001) review the state of the art of cloning. They state that, "Without a doubt, one of the major factors influencing the probability of cloning a specific animal is species. While the basic approach involving nuclear transfer may be similar, the specific materials and methods utilized for cloning one species of animal do not automatically apply across different species." (see p. 36 par 4) Westhusin et al further state that the factors to consider when cloning animals by nuclear transfer include acquisition of mature ova, enucleation of mature ova, nuclear transfer into the enucleated ova, activation of the reconstructed embryo, culturing the embryo in vitro and transferring the embryo into a recipient. [p. 9, lines 9-17]". The specification does not detail the different conditions needed to be considered as discussed above for all species of animal. Therefore, the specification is not enabling for all animals as claimed. Furthermore, nuclear transfer has not been accomplished in all species of animal and the species dependent factors for the animal that have not been produced by nuclear transfer have not been established. Therefore, an artisan would not know how to do nuclear transfer in animals that have not been successfully produced by nuclear transfer.

Fourth, the claims were also rejected because, "As the claim is written nothing links the steps of producing the transgenic cell line and first transgenic animal to these steps. Therefore as written, the above steps encompass obtaining any homozygous



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cell with the desired transgene, but the specification does not support this use. Also this part of the claim is discussing cells when the other steps were drawn to cell lines.

Given this lack of clarity and the implications of using cell over cell lines, an artisan would not be clear in the method being used and therefore would not be able to make or use the instant invention. [par bridging p. 10 and 11]". Applicant traverses this argument on the grounds that the amendments to the claims address this point of enablement. These arguments are not found persuasive because some of the same issues of clarity and the implications remain. It is acknowledged that the amendments have improved the clarity and now provide a link between the steps of producing the transgenic cell line and first transgenic animal nuclear transfer. However, the selecting homozygous cells with the desired transgene still remains unclear and the amended recitation of cells does not further clarify this issue. It is not clear which cells are being selected for homozygosity the transfected cells or cells from the transgenic the latter of which will not select for homozygous cells because cells from a heterozygous transgenic will only be heterozygous. Therefore an artisan would not be able to select for homozygous cells.

Lastly, the claims were rejected on the grounds that selection of cells homozygous for a transgene by means of a selectable marker and selection agent as disclosed in the specification will not necessarily or predictably provide a homozygous cell as intended. Applicant traversed this point of rejection on the grounds that the unpredictabilities fall within the realm of unpredictabilities of standard laboratory practices and that one of skill in the art could obviate such unpredictabilities by



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confirmation tests, such as PCR. These arguments are not found persuasive because in the case of cell selection for nuclear transfer such confirmatory tests could not be done without destroying the cell to be used for nuclear transfer. Therefore, for reasons previously disclosed it is not clear the screening would result in a homozygous cells and because it is being used for nuclear transfer its allelic status could not be confirmed as Applicant asserts.

Therefore, because the instantly claims methods are still deemed as not being enabled by the specification and the amendments to the claims to not obviate the issues of enablement, this enablement rejection stands.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, and 6-9, rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, have been amended to clarify the claims and therefore the rejection is withdrawn.

Claims 6-9 recited the limitation "said donor" in line 1. There was insufficient antecedent basis for this limitation in the claim. This was further considered vague and indefinite because it is not clear if donor refers to first or second or both rounds of nuclear transfer.

The claims were amended and removed this recitation. Therefore, the rejection is rendered moot.

6. Claims 1-11, 14, 17, and 22-24, rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, have been amended and the rejection is withdrawn.

Claims 1 and 4 recited "several known molecular biology methods". The metes and bounds of "several known molecular biology methods" were relative in time of use the method as well as dependent on the artisan doing the methodology and therefore considered vague and indefinite. This recitation has been removed by amendment. Therefore, the rejection is rendered moot.

7. Claims 1 and 4, rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, have been amended and the rejection is withdrawn.

Claim 4 recited "...without limitation FISH...". The meaning of this phrase was not discernable by examiner. This recitation has been removed by amendment and therefore this rejection is rendered moot.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 4, 5-11, 14, 17, and 22-24, rejected under 35 U.S.C. 102(b) as being anticipated by WO 0042174 (of record), is withdrawn.

Applicant traversed this rejection on the grounds that this art did not teach all of the limitations of the claims and therefore is not anticipatory. Upon further consideration, Applicant's argument is found to be persuasive because WO 0042174 does not teach selecting a homozygous cell specifically and using that for the second round of nuclear transfer. Therefore the rejection is withdrawn.

9. Claims 1, 4-11, and 22-24, rejected under 35 U.S.C. 102(e) as being anticipated by US 202/0069423 A1 (f.d. 3/26/2001), is withdrawn.

Applicant traversed this rejection on the grounds that this art did not teach all of the limitations of the claims and therefore is not anticipatory. Upon further consideration, Applicant's argument is found to be persuasive because the method directly selects a homozygous animal and produces the homozygous transgenic in the first round of nuclear transfer not the second as claimed. Therefore the rejection is withdrawn.

10. Claims 1-11, 14, 17 and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 5,945,577 (Aug 31, 1999).

Applicant traversed this rejection on the grounds that this art did not teach all of the limitations of the claims and therefore is not anticipatory. Upon further consideration, Applicant's argument is found to be persuasive because '577 does not

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teach selecting a homozygous cell specifically and using that for the second round of nuclear transfer. Therefore the rejection is withdrawn.

11. Claims 1-11, 14, 17, and 22-24, rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 5,633,076 (May 27, 1997), is withdrawn.

Applicant traversed this rejection on the grounds that this art did not teach all of the limitations of the claims and therefore is not anticipatory. Upon further consideration, Applicant's argument is found to be persuasive because '577 does not teach selecting a homozygous cell specifically and using that for the second round of nuclear transfer. Therefore the rejection is withdrawn.

12. No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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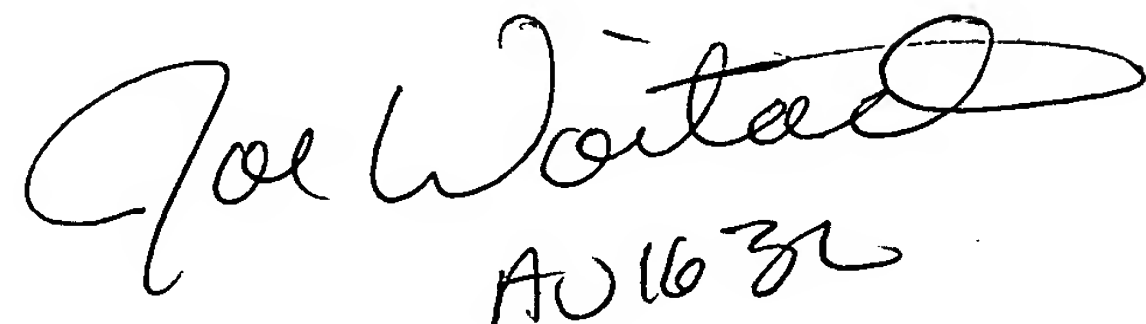
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcia S. Noble whose telephone number is (571) 272-5545. The examiner can normally be reached on M-F 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marcia S. Noble

  
AV 1632